



DiPel[®] PRO DF

BIOLOGICAL INSECTICIDE DRY FLOWABLE

 FOR ORGANIC PRODUCTION



ACTIVE INGREDIENT:

Bacillus thuringiensis, subsp. *kurstaki*, strain ABTS-351, fermentation solids, spores, and insecticidal toxins* . . . 54%

OTHER INGREDIENTS 46%

TOTAL 100%

*Potency: 32,000 Cabbage Looper Units (CLU) per mg (14.5 billion CLU per pound).

The percent active ingredient does not indicate product performance and potency measurements are not federally standardized.

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List No. 12046

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**KEEP OUT OF REACH OF CHILDREN
CAUTION**

1.0

FIRST AID	
If on skin or clothing	<ul style="list-style-type: none"> • Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes. • Call a poison control center or doctor for treatment advice.
If inhaled	<ul style="list-style-type: none"> • Move person to fresh air. • If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. • Call a poison control center or doctor for treatment advice.
If in eyes	<ul style="list-style-type: none"> • Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.
HOT LINE NUMBER	
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-892-0099 (24 hours) for emergency medical treatment and/or transport emergency information. For all other information, call 1-800-89-VALENT (898-2536).	

2.0 PRECAUTIONARY STATEMENTS

2.1 HAZARD TO HUMANS AND DOMESTIC ANIMALS CAUTION

Harmful if inhaled or absorbed through the skin. Causes moderate eye irritation. Avoid breathing dust or spray mist. Avoid contact with skin, eyes, or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove contaminated clothing and wash before reuse.

2.2 PERSONAL PROTECTIVE EQUIPMENT (PPE)

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Waterproof gloves
- Shoes plus socks

Mixer/loaders and applicators must wear a dust/mist filtering respirator meeting NIOSH standards of at least N-95, R-95, or P-95. Repeated exposure to high concentrations of microbial proteins can cause allergic sensitization.

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

2.3 ENGINEERING CONTROLS

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides (40 CFR 170.240(d)(4-6)), the handler PPE requirements may be reduced or modified as specified in the WPS.

IMPORTANT: When reduced PPE is worn because a closed system is being used, handlers must be provided all PPE specified above for "applicators and other handlers" and have such PPE immediately available for use in an emergency, such as a spill or equipment break-down.

2.4 USER SAFETY RECOMMENDATIONS

- Users should remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- User should remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

2.5 ENVIRONMENTAL HAZARDS

Do not contaminate water when cleaning equipment or disposing of equipment washwaters.

This product must not be applied aerially within 1/4 mile of any habitats of endangered species or threatened lepidoptera. No manual application can be made within 300 feet of any threatened or endangered lepidoptera.

3.0 DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

4.0 AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE), and restrictive entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 4 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water is:

- Coveralls
- Waterproof gloves
- Shoes plus socks

5.0 NON-AGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries or greenhouses. Keep unprotected persons out of the treated areas until sprays have dried.

6.0 STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal.

Pesticide Storage: Reclose containers of unused *DiPel* PRO DF. Store in a dry place inaccessible to children and out of sunlight.

Pesticide Disposal: Do not contaminate food or feed by disposal. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

Container Disposal: Nonrefillable container. Do not reuse or refill this container. Completely empty bag into application equipment by shaking and tapping sides and bottom to loosen clinging particles. Offer for recycling, if available, or dispose of empty bag in a sanitary landfill or by incineration. Do not burn, unless allowed by State and local ordinances.

7.0 DIRECTIONS FOR USE

See Chemigation section for chemigation use directions.

Days to Harvest: There are no restrictions on applying *DiPel* PRO DF up to the time of harvest. Individual State regulations may vary and should be consulted for allowable pre-harvest application intervals.

Sites: *DiPel* PRO DF may be used for any labeled pest in both field and greenhouse use as well as in self-contained, closed system, ornamental ponds.

DiPel PRO DF is an insecticide for use against listed caterpillars (larvae) of lepidopterous insects. Close scouting and early attention to infestations is highly recommended. Larva must eat deposits of *DiPel* PRO DF to be affected. Always follow these directions:

- Treat when larvae are young (early instars) before the crop is damaged.
- Larvae must be actively feeding on treated, exposed plant surfaces.
- Thorough spray coverage is needed to provide a uniform deposit of *DiPel* PRO DF at the site of larval feeding. Use overhead and drop nozzles to obtain good spray coverage on both sides of foliage. Use sufficient spray volume to insure uniform deposition on all plant surfaces.
- Under heavy pest population pressure, use the higher label rates, shorten the spray interval, and/or raise spray volume to improve spray coverage.
- Repeat applications at an interval sufficient to maintain control, usually 3 to 14 days depending on plant growth rate, moth activity, rainfall after treating, and other factors. If attempting to control a pest with a single spray, make the treatment when egg hatch is essentially complete, but before crop damage occurs.
- A spreader-sticker which has been approved for use on growing and harvested crops should be added for hard-to-wet crops such as cabbage, or to improve weather-fastness of the spray deposits.
- *DiPel* PRO DF is a non-restricted use pesticide and does not require a restricted use permit for purchase and use.

- *DiPel* PRO DF may be tank mixed with other labeled insecticides to enhance control. Use of the resulting tank mix must be in accordance with the more restrictive label limitations and precautions. No dosage rates should be exceeded. This product cannot be mixed with any product containing a label prohibition against such mixing. Before tank mixing *DiPel* PRO DF with other labeled products, including spreader stickers, check for tank mix compatibility.

After ingesting a lethal dose of *DiPel* PRO DF, larvae stop feeding within the hour, and will die within several hours to 3 days. Mortality varies with larval size (instar), lepidopteran species, and dose consumed. Following ingestion, larvae become sluggish, discolor, then shrivel, blacken and die. Smaller larvae die more quickly.

DiPel PRO DF may be applied in conventional ground or aerial equipment with quantities of water sufficient to provide uniform coverage of infested plant parts. The volume of water needed per acre will depend on crop development, relative humidity, spray equipment, and local experience. Usually, selection of moderate to high spray volume will provide the best results in most equipment. For optimal results, use at least 20 gallons of water per acre for ground application. For aerial application use at least 3 gallons of water per acre; exception being arid areas, where 5 to 10 gallons are required. Add water to the mix tank and provide moderate agitation. While agitating, add the required amount of *DiPel* PRO DF. Continue agitation, and add other spray materials, if any. Add remaining water, if any, and agitate until fully mixed. Maintain the suspension with moderate agitation while loading and spraying. Do not mix more *DiPel* PRO DF than can be used in a 3 day period.

Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment-and-weather-related factors determine the potential for spray drift. The applicator and the grower are responsible for considering all of these factors when making decisions.

For Smaller Spray Volumes:

If Rate is	Use This Amount Per Gallon (wt)	
1/4 lb/A or 100 gals	1/2 tsp	(0.04 oz)
1/2 lb/A or 100 gals	1 tsp	(0.08 oz)
1 lb/A or 100 gals	2 tsps	(0.16 oz)
2 lb/A or 100 gals	4 tsps	(0.32 oz)

7.1 CHEMIGATION USE DIRECTIONS

Apply this product only through sprinkler including center pivot, lateral move, end tow, side (wheel) roll, traveler, big gun, solid set, or hand move irrigation systems. Do not apply this product through any other type of irrigation systems. Do not connect an irrigation system (including greenhouse systems) used for pesticide applications to a public water system.

Crop injury, lack of effectiveness, or illegal residues in the crop can result from nonuniform distribution of treated water. A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the

system down and make necessary adjustments should the need arise. Allow sufficient time for pesticide to be flushed through all lines and all nozzles before turning off irrigation water.

Spray Preparation

First prepare a suspension of *DiPel* PRO DF in a mix tank. Fill tank with 1/2 to 3/4 the desired amount of water. Start mechanical or hydraulic agitation. Add the required amount of *DiPel* PRO DF, and then the remaining volume of water. Then set the sprinkler to deliver a minimum of 0.1 to 0.3 inch of water per acre. Start sprinkler and uniformly inject the suspension of *DiPel* PRO DF into the irrigation water line so as to deliver the desired rate per acre. The suspension of *DiPel* PRO DF should be injected with a positive displacement pump into the main line ahead of a right angle turn to insure adequate mixing. Any questions on calibration should be directed to your State Extension Service Specialists, to equipment manufacturers or other experts.

NOTE: When treatment with *DiPel* PRO DF has been completed, further field irrigation over the treated area should be avoided for 24 to 48 hours to prevent washing the material off the crop.

7.2 GENERAL PRECAUTIONS FOR APPLICATIONS THROUGH SPRINKLER IRRIGATION SYSTEMS

Maintain continuous agitation in the mix tank during mixing and application to insure a uniform suspension. Greater accuracy in calibration and distribution will be achieved by injecting a larger volume for a more dilute solution per unit time.

The system must contain a functional check valve, vacuum relief valve, and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.

The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.

The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.

The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.

The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.

Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock. Do not apply when wind speed favors drift beyond the area intended for treatment, system connections or fittings leak, nozzles do not provide uniform distribution or when lines containing the product must be dismantled and drained.

7.3 APPLICATION RATE

Crop	Pests	Pounds/Acre
Flowers, Bedding	Looper	1/4 - 1
Plants and	Tobacco Budworm	1/4 - 1
Ornamentals*	Omnivorous Looper	1/4 - 1
	Omnivorous Leafroller	1/4 - 1
	Diamondback Moth	1/4 - 1
	Armyworm ¹	1 - 2
	Ello Moth (Hornworm)	1/4 - 1
	Io Moth	1/4 - 1
	Oleander Moth	1/4 - 1
	Azalea Caterpillar	1/4 - 1

GREENHOUSE/SHADEHOUSE AND OUTDOOR NURSERY

Crop	Pests	Pounds/Acre
Crops including but not limited to:	<i>Heliothis virescens</i>	1/2 - 2
Vegetable, leafy, except brassica (group 4), Vegetable, brassica leafy (group 5), Vegetable, fruiting (group 8), Herbs and spices (group 19)	<i>Helicoverpa zea</i>	1/2 - 2
Herbs and spices (group 19), and	Looper	1/2 - 1
Mint including, but not limited to: Basil, Chive, Dill and Peppermint	Saltmarsh Caterpillar	1/2 - 1
	Armyworm ¹	1 - 2
Turf	Sod Webworm	1 - 2

* For best results, use a ground applicator, a minimum of 50 gallons total mix per acre, 50-100 psi and 3-7 nozzles per bed.

¹ DiPel PRO DF may be used to control small armyworms and/or podworms (1st and 2nd instar) when populations are light and full coverage sprays are applied. Repeat treatment as necessary. If mature worms or heavy populations are present a contact insecticide should be used to enhance control.

AQUATIC ORNAMENTALS

Crop	Pests	Use Rate*
Water lilies and other aquatic ornamentals	China Mark Moth	1/4 - 1/2 teaspoon/ 100 sq ft (0.6 - 1.2 g/ 100 sq ft)

FOR USE IN SELF-CONTAINED, CLOSED-SYSTEM, ORNAMENTAL PONDS ONLY.

*For a 10' x 10' pond (100 sq ft) mix 1/4 - 1/2 teaspoon of DiPel PRO DF in 1 quart of water and apply to pond surface. Adjust quantities accordingly based on specific pond size.

7.4 FORESTS AND ORNAMENTAL TREES

Crop	Pests	lbs/100 Gallons*
Forest, Shade, Sugar	Gypsy Moth	1/2 - 1
Maple Trees and	Bagworm	1/2 - 1
Ornamental Trees	Redhumped Caterpillar	1/2 - 1
	Spring and Fall Cankerworm	1/2 - 1
	Fall Webworm	1/2 - 1
	Elm Spanworm	1/2 - 1
	Tent Caterpillar	1/2 - 1
	California Oakworm	1/2 - 1
	Pine Butterfly	1/2 - 1
	Spruce Budworm	1/2 - 1
	Saddle Prominent Caterpillar	1/2 - 1
	Douglas Fir Tussock Moth	1/2 - 1
	Western Tussock Moth	1/2 - 1
	Fruittree Leafroller	1/2 - 1
	Blackheaded Budworm	1/2 - 1
	Mimosa Webworm	1/2 - 1
	Jackpine Budworm	1/2 - 1
	Saddleback Caterpillar	1/2 - 1
	Greenstriped Mapleworm	1/2 - 1
	Hemlock Looper	1/2 - 1

*Rate for hydraulic sprayer. For mist blowers, mix the applicable amount (lbs) in 10 gallons of water.

NOTE: Inclusion of a suitable spreader-sticker approved for forest insect control is recommended to improve coverage, rain fastness and/or resist wash-off.

8.0 NOTICE TO USER

To the extent consistent with applicable law, seller makes no warranty, express or implied, of merchantability, fitness or otherwise concerning the use of this product other than as indicated on the label. User assumes all risks of use, storage or handling not in strict accordance with accompanying directions.

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